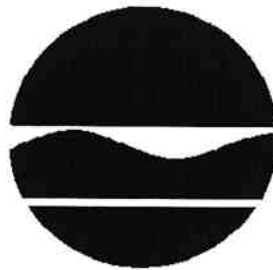


**SUPERFUND STANDBY PROGRAM**  
**New York State**  
**Department of Environmental Conservation**  
**50 Wolf Road**  
**Albany, New York 12233-7010**

**SITE ID 210: LOCKHEED MARTIN'S and GENERAL ELECTRIC'S**  
**FARRELL ROAD PLANT**

**SITE SUMMARY REPORT**  
**REVISION 2**



**Onondaga Lake Project**  
**Task 5: 104(e) Review**

**Site No. 734030-002**  
**Work Assignment Number D003060-9**

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## **1.0 SITE DESCRIPTION**

The information used in this report was obtained from the 104(e) responses of both Lockheed Martin Corporation (Company ID 2002, formerly known as the Martin Marietta Corp.) and General Electric Company (Company ID 2003).

### **1.1 Location**

The General Electric Farrell Road Plant (FRP) is situated northeast of the intersection of Routes 90 and 690, in the Town of Geddes. The site is bound by John Glenn Boulevard to the south, Farrell Road to the west and the Seneca River to the north and east. Onondaga Lake is located approximately one mile southeast of the site (Figure 1).

The facility consists of two large buildings, Building 1 and Building 2, as well as two small accessory buildings (the Test Building and a maintenance garage). Building 1 and the Test Building are known as FRP-1, Building 2 and the maintenance garage are known as FRP-2. In total, the property is 158 acres; 98 acres associated with FRP-1 and 66 acres associated with FRP-2. Building 1 is approximately 150,000 square feet, Building 2 is approximately 300,000 square feet and the Test Building and maintenance garage are 9,000 and 6,500 square feet, respectively. The property includes a wetland area adjacent to the Seneca River.

### **1.2 Geology**

The Farrell Road facility is situated within the Ontario Lowlands physiographic province. This province represents the remains of glacial Lake Iroquois, and extends to Lake Ontario. The main stage of Lake Iroquois developed 12,500 years ago, producing well defined shorelines and a low-relief lake bottom. The broad flat-lying plains situated north from

Syracuse to Lake Ontario were formed beneath Lake Iroquois and are characterized by lacustrine fine sand and silt deposits. Other morphological features associated with glaciation are found scattered throughout Onondaga County, such as moraines, meltwater channels, drumlins, and U-shaped valleys.

Bedrock in the greater Syracuse area consists of Lower to Middle Paleozoic age sedimentary rocks predominated by carbonates (limestone and dolostone) and shale rock units, with minor layers of sandstone, siltstone, and evaporite. Bedrock directly beneath the site (as well as underneath Onondaga Lake) is the Silurian Vernon Shale (Rickard and Fischer, 1970) which has a low permeability, but a secondary porosity due to joints and fractures.

According to ERM (1992), the geology at the site is relatively simple. Near surface soils consist of fine to medium sand with silt and trace amounts of clay. This overlies a dense red clay, which is at a depth of 9 feet on the west side of the site but is greater than 40 feet deep beneath the Test Building at the northeast corner of the property. A discontinuous layer of coarse sand and gravel separates the top of the red clay from the fine sand and silt. In addition, a west-northwest trending ridge in the upper surface of the red clay lies directly beneath the site. These features have an impact on the direction of groundwater flow, as discussed below.

### **1.3 Hydrogeology**

Based on contoured groundwater elevations reported by ERM (1992), groundwater beneath the Farrell Road site flows predominantly northward, towards the Seneca River. Local perturbations in the water table are caused by the west-northwest trending red clay ridge and by variations in hydraulic conductivity associated with the coarse sand and gravel on top of the clay. This direction of groundwater flow indicates the site lies outside of the Onondaga Lake drainage basin.

#### **1.4 Surface Water Hydrology**

The Seneca River lies between 1,000 to 1,200 feet to the north of the FRP. The area between the FRP and the river is a Class 1 regulated wetland. The storm sewer system conveys surface runoff directly to the wetland adjacent to the Seneca River. The Onondaga Lake Outlet discharges to the Seneca River upstream of the Farrell Road facility.

## **2.0 SITE HISTORY**

### **2.1 Owners/Operators**

According to documentation provided by Martin Marietta Corporation (MMC), the Farrell Road Plant (FRP, EPA Facility ID NYD002247377) was constructed in the early 1960s by General Electric Aerospace (GE) as a manufacturing center. GE owned the FRP-2 property and leased the FRP-1 property. By December 1992, GE moved all operations from FRP to other locations. In April 1993, GE sold the western portion of the FRP (FRP-2; including Building 2 and the maintenance garage) to MMC and assigned the lease on FRP-1 (including Building 1 and the Test Building) to MMC. Ownership of FRP-2 was transferred to Syroco, Inc. in December 1993. Currently, Syroco, Inc. owns both FRP-1 and FRP-2 and utilizes the facility as a warehouse.

### **2.2 Site Operations**

GE utilized the FRP as a design, manufacturing and administrative center for radar and sonar equipment. Building 1 was used as a design center, Building 2 was the manufacturing and assembly plant, the Test Building was used to test radar products and the maintenance garage was used to service and house plant support vehicles.

### **2.3 Generation and Disposal of Wastes**

According to Lockheed Martin's responses, based on their review of hazardous waste reports for calendar years 1985 to 1994 (LMC, Mailing No. 3, p.000282), a total of 2,082 tons of hazardous waste was generated at the FRP during this time period. A GE internal memorandum (GE, Mailing No. 2, p. 001022) states that wastes generated at the FRP were hauled either by Onondaga Environmental Systems, Inc. to the Town of Geddes Landfill, or by Frontier Chemical Waste Process, Inc. to the Model City Landfill. No records were

provided for waste disposal prior to 1973. In MMC's second mailing, they maintained that all hazardous wastes and substances as well as industrial wastes were transported and disposed of properly by authorized firms at permitted disposal facilities (p. 000282). MMC also stated that manifests were used when required and were submitted to NYSDEC.

In a NYSDEC Hazardous Waste Survey, GE reported the generation of the following wastes for the period January 1, 1977 through August 1, 1977 (p. 000694):

<b>Waste</b>	<b>Gallons/Yr</b>
1,1,1 Trichloroethane	880
Fluorocarbon Solvents	990
Non-chlorinated Solvents (aromatic & ketone)	440
Other Chlorinated Solvents	330
Oils	770
Copper Plating & Etching Solutions	4,510
PCB Solids	2,090
Hydrochloric Acid	2,310
Phosphoric Acid	1,210
Sulfuric Acid	1,430
Mixed 1,1,1 Trichloroethane & Oils	110
Unknown Waste	880

According to a GE 1984 hazardous waste questionnaire, wastes generated at the FRP were also transported by GE to their Electronics Park facility for centralized pick-up by the disposal contractor (GE, Mailing No. 2, p.000834).

### Other Hazardous Substances

The discharge of process wastewater and sanitary wastewater was permitted and handled through the Onondaga County Department of Drainage and Sanitation (OCDDS). Effluent was discharged to both the Geddes #4 Wastewater Treatment Plant and the Baldwinsville-Seneca Knolls Wastewater Treatment Facility (Onondaga County Industrial Waste Discharge Permit No. 23, pp. 202691- 202692). Several reported Notices of Violation (NOV) and resulting correspondence were provided with the Due Diligence Report (MMC, Mailing No. 2, pp. 202552 - 202670) which documents exceedances above permitted levels for chrome and pH. The Baldwinsville-Seneca Knolls plant is situated northwest of the FRP in the village of Baldwinsville, along the Seneca River. The Geddes plant was located on Rt. 48 in the town of Geddes. Wastewater from both facilities was discharged to the Seneca River, which is outside of the Onondaga Lake basin.



### **3.0 POTENTIAL PATHWAYS FOR RELEASE OF HAZARDOUS SUBSTANCES TO THE LAKE SYSTEM**

#### **3.1 Soil**

The extent of contaminated soil at the FRP is documented in Section 4. In summary, VOC and petroleum hydrocarbon contamination resulted from USTs and solvent contamination resulted from drum washing. No specific source was reported for additional localized VOC contamination.

#### **3.2 Surface Water**

The discharge of stormwater from Outfalls No. 1-9 has presented a potential pathway for release of contamination to the Seneca River. However, the Seneca receives the outflow of Onondaga Lake upstream from the FRP and surface water emanating from the FRP is not likely to contribute to contamination in the Lake.

#### **3.3 Groundwater**

According to groundwater contours provided by ERM-Northeast, groundwater beneath the FRP flows generally towards the Seneca River, north of the site. As such, groundwater contamination to the Onondaga Lake system from the FRP is most likely not significant.

#### **3.4 Air**

No air or emission quality data was provided by either GE or MMC for the FRP. However, based on the operations conducted at the site, the potential for the migration of contamination from the FRP to the Onondaga Lake system via the airborne pathway is not expected to be significant.

### **3.5 County Sewer System**

According to the OCDDS Industrial Waste Discharge Permits included in Document No. 570 (pp. 202691-202692), sanitary and process wastewater emanating from the FRP was discharged to the county sewer system for final treatment at the Geddes #4 Treatment Plant from March 1978 to March 1983 and at the Baldwinsville-Seneca Knolls facility from March 1983 to March 1986. In addition to sanitary wastewater, printed wire board process water and metal cleaning process water were discharged to the sewer system during this period (p. 202692). According to a 1993 Industrial Chemical Survey, the FRP has recently discharged only sanitary wastewater to the sanitary sewer system for treatment at the Baldwinsville-Seneca Knolls facility (Martin Marietta, 1993, p. 200015).

The Baldwinsville-Seneca Knolls facility is located to the northwest of the FRP in the village of Baldwinsville, on the shore of the Seneca River. The Geddes #4 facility was located on Rt. 48 in the town of Geddes. Wastewater from the two facilities was discharged to the Seneca River.

## **4.0 LIKELIHOOD OF RELEASE OF HAZARDOUS SUBSTANCES TO THE LAKE SYSTEM**

### **4.1 Documented Releases**

As noted in Section 2.3, several violations of the wastewater discharge to the municipal sewer for chrome and pH were identified by MMC in their Due Diligence summary. From the responses provided, the quantity of wastewater released and the periods of discharge to the two treatment facilities could not be determined.

A tabulation of spills at the FRP was provided by MMC for the period 1986 to 1995. As stated previously, the likelihood of these spills reaching the Onondaga Lake system is remote due to the proximity of the site to the Seneca River, downstream of the Lake Outlet.

### **4.2 Threat of Release to the Lake System**

#### **4.2.1 Extent of Contamination**

In 1992, ERM-Northeast, Inc. completed Environmental Investigation Reports for both FRP-1 and FRP-2 (ERM, 1992). The reports identified areas of potential environmental concern, characterized site conditions (geology and current extent of contamination), and recommended appropriate remedial actions. At FRP-1, the investigations identified two potential areas of concern: a previously removed underground storage tank (UST) and the septic field north of the Test Building. Soil samples collected in the vicinity of the removed UST indicated low levels of petroleum products; however, ERM recommended no further action since the area is paved over and receives little recharge. Samples of groundwater north of the Test Building also indicated low levels of chlorinated solvents. However, soil samples collected from within the leach field revealed no apparent source. As a corrective measure, the septic tank was removed. ERM recommended periodic monitoring of wells in the septic

leach field north of the Test Building and in the area around the removed UST, T-50 (ERM, July 16, 1992, pp. 202127-202128). In October 1992, seven existing monitoring wells located along the northern portion of the FRP were sampled and the results are listed in ERM's Additional Ground Water Sampling letter report (Record #1087, pp. 202524-202550). Low levels of VOCs were detected in four of the monitoring wells.

At FRP-2, a total of 14 preliminary areas of concern were identified during the Phase I Environmental Assessment. Each of these were further assessed during the ensuing Environmental Investigation, resulting in the recommendation of no further action on nine of the areas. The remaining five identified areas of concern and their recommended remedial action are:

- 1) *Removed solvent tanks and drywell area.* VOC concentrations exceeding NYSDEC groundwater standards were detected in areas adjacent to and beneath Building 2. The contamination is reported to have resulted from nine 275-gallon USTs which were used to store solvents and from a drywell which was used to hold "paint drippings" from the paint shop. ERM recommended soil venting as the most effective method of soil remediation and source control.
- 2) *UST, T-51.* Up to six inches of free-phase petroleum product was identified floating on top of groundwater near the removed tank. ERM recommended the installation of a petroleum product recovery system near the tank.
- 3) *Freon drum washing area.* Freon and other solvents were detected in the soil and groundwater near an area reported to have been used for washing out drums. ERM recommended soil venting in the area, to be coordinated with remediation around UST, T-51.
- 4) *Radar test area.* Two small areas of VOC-contaminated soils were identified to the north of Building 2. ERM recommended immediate source control action for these areas by

excavating and disposing the contaminated soil.

5) *USTs near the Maintenance Garage.* Petroleum residuals were detected in the soil and groundwater on the downgradient side of the location of the removed USTs. ERM recommended a groundwater remediation program (most likely soil venting) for the area around the removed tanks.

Since completion of the Environmental Investigation Reports, MMC has agreed to three Consent Orders to address contamination. These IRMs are currently being performed, including soil vapor extraction in the former solvent tank area (item 1); soil and groundwater treatment in the gasoline release area (item 5); and product recovery in the former storage tank area (item 2). It is not known if this latter IRM includes measures to remediate VOC contamination associated with item 3.

#### **4.2.2 Migration Potential of Contaminants**

As shown by ERM, the groundwater flow direction beneath the site is directly towards the Seneca River, via the wetlands which form the boundary between the FRP and the Seneca River. Therefore, there is a minimal chance that contamination from the FRP can reach the Onondaga Lake system.

## **5.0 POTENTIAL FOR ADVERSE IMPACTS TO LAKE SYSTEM DUE TO A RELEASE OR THREAT OF A RELEASE**

### **5.1 Hazardous Substance Characteristics**

Based on the ERM reports for the period prior to 1992, the substances of concern at the Farrell Road site are VOCs, solvents and petroleum hydrocarbons (ERM, 1992). As a result of this study, IRMs are underway to remediate the problem(s) and to remove the source(s).

Since the time of these reports, the site has been inactive or has been utilized as a warehouse facility. No information was provided to indicate the material currently being stored at the facility. It is expected that the past and current IRMs should mitigate contamination emanating from the site. Contaminant specific characteristics are not included herein since the site is not within the Onondaga Lake drainage basin.

### **5.2 Quantity of Substance**

An estimate of the quantities of hazardous substances released to the environment was not included in the responses. However, a map illustrating the areal extent of the contamination at each of the areas of concern was provided. The map indicates that contamination has not extended beyond the property boundary.

### **5.3 Levels of Contamination**

While contamination levels for each of the areas of concern are tabulated in ERM's Environmental Investigations Reports (1992), a detailed presentation in this Site Summary Report is not warranted, as IRM implementation will have either eliminated or reduced contaminant levels at the site. In addition, the contaminant migration is away from the Onondaga Lake basin.

## **5.4 Impacts on Special Areas**

The FRP is situated near the Seneca River which is currently listed as a Class B stream and is therefore a “protected stream” in New York State. Situated between the FRP and the Seneca River is a New York State regulated wetland. If the current and past IRMs do not perform as originally designed, there is a potential for contamination emanating from the site to migrate through the wetland before reaching the Seneca River.

## **6.0 SUMMARY OF CONCERNS**

Based on information provided by GE and MMC, it is evident that a number of areas on the FRP have been impacted by hazardous waste activities. Contamination was the result of leaking storage tanks, drywells, waste storage areas, septic tanks and associated leach fields, drum rinsing areas, and on-site dumping of hazardous wastes. These sources impacted both soil and groundwater with solvents, chlorinated solvents, and petroleum hydrocarbons. Past and current IRMs have been implemented to reduce or mitigate contaminant levels on-site.



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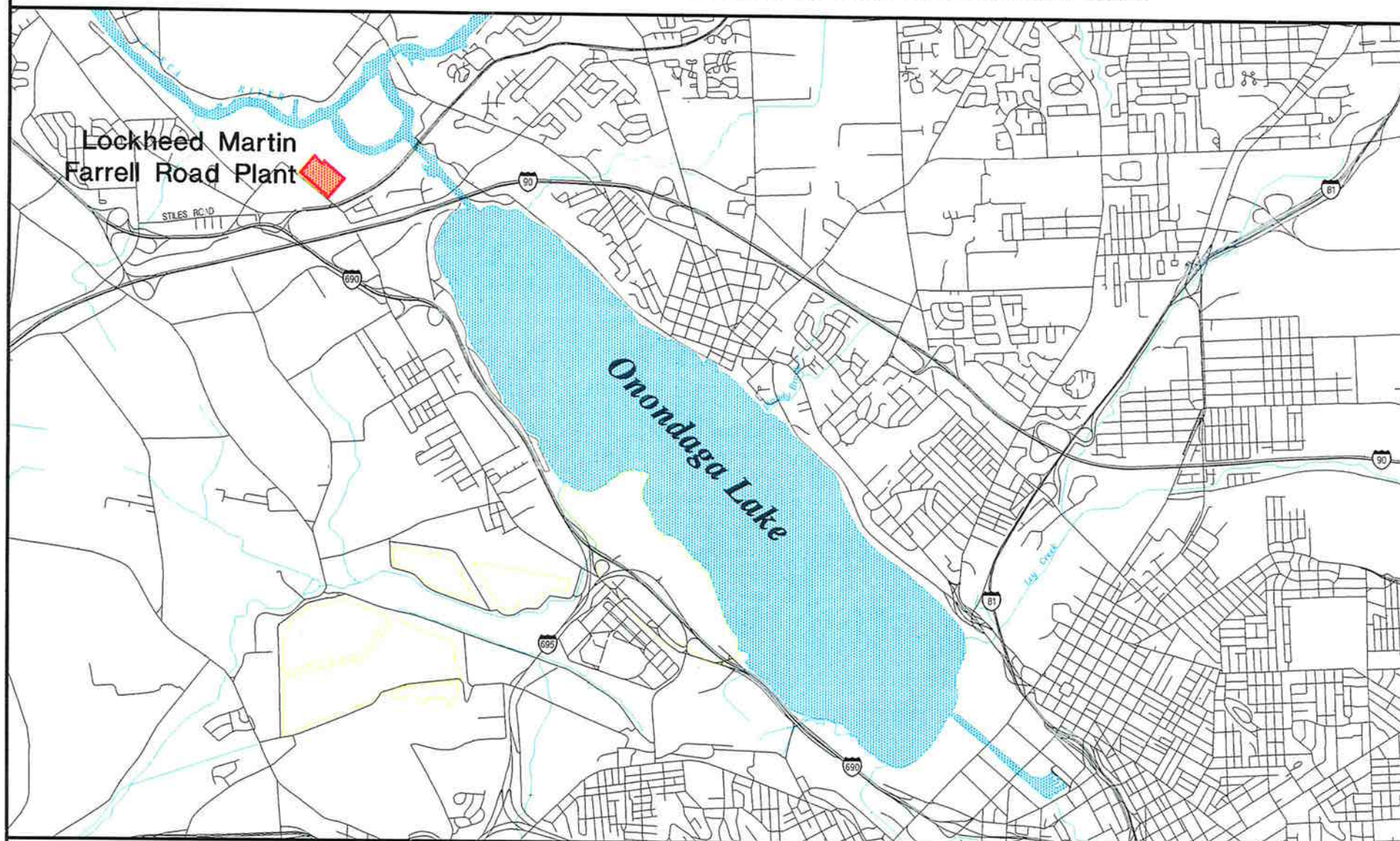
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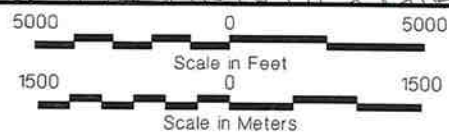
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# Site Location: Lockheed Martin Farrell Road Plant



Site Location



TAMS

Figure 1